

Application Serial No. 10/754,914  
Amendment dated April 10, 2006  
Reply to Final Office Action of January 10, 2006

### REMARKS

Claims 1-24 are pending in this application. The Final Office Action dated January 10, 2006, finally rejected claims 1-24.

#### Claim Rejections – 35 USC § 103

The Office Action noted for the record that the Examiner assigns a broad interpretation to the terms “harmony,” “melody,” and “chord.” Applicants remind the Examiner that in applying the prior art, the claims should be construed to encompass all definitions that are consistent with applicants' use of the term and the pending claims must be given the broadest reasonable interpretation consistent with the specification.

Claims 1-24 are rejected under 35 USC 103 (a) as being obvious over Dunn's “Inflections: Music from DNA (1992-1995)” in view of Long (GB 2,350,469 A). Regarding claims 1, 8, 14-19, and 23, Dunn in view of Long fails to teach or fairly suggest a harmonic sequence generator that is configured to receive the DNA sequence, determine an amino acid that is defined by a three-segment DNA sequence, and determine a chord in response to the defined amino acid whereby a harmonic sequence is generated in response to a succession of defined amino acids, wherein the melodic sequence generator is further configured to receive the harmonic sequence and in response generate the melodic sequence. (The pre-existing limitation of claim 7 has been expressly incorporated in claim 1.)

The Office Action states that while Dunn's written disclosure is silent to distinguishing between melodic and harmonic generation, it is clear, that by listening to Dunn's (and Bridge's)

Application Serial No. 10/754,914  
Amendment dated April 10, 2006  
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compositions (available on the internet), that both harmony and melody are “transcribed” from the DNA sequences. Dunn’s compositions are polyphonic (containing three voices) wherein each voice plays a note that is determined by a single amino acid. It is significant that the instrumentation (i.e., which instruments are chosen) and rhythm have been determined by a human composer (apparently Bridges in this case) because the duration of the notes (and the change of the spectral content over time) of a note played by an instrument determines any perceived harmony with respect to other voices. Thus, the perceived harmony results from notes overlapping each other, with the overlap being chosen by a human composer.

**This distinction is significant because the harmony of Dunn is determined by the generated melodies, not the melody determined by the generated harmonies.** In claim 1, the melodic sequence generator is further configured to receive the harmonic sequence and in response generate the melodic sequence. As discussed above, Dunn does not teach or fairly suggest generating a melodic sequence in response to a received harmonic sequence. Instead, Dunn generates three melodies that, arguendo, produce a harmony. In claim 8, a melodic sequence is generated in response to a plurality of determined chords. Again Dunn does not teach or fairly suggest a melody being derived from determined chords.

Furthermore, Long does not overcome Dunn’s deficiencies. Long merely teaches sounding chords and arpeggios in accordance with amino acids. Like Dunn, Long at least does not teach or fairly suggest the melodic sequence being generated in response to a received harmonic sequence. Combining Dunn with Long would not have led to the claimed invention because Dunn and Long, either individually or in combination, at least do not teach, fairly

Application Serial No. 10/754,914  
Amendment dated April 10, 2006  
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suggest, or disclose generating a melodic sequence in response to a plurality of determined chords.

The Office Action asserts that generating a melody based on harmony would certainly be within the scope of one of ordinary skill and that this is the technique used throughout the era of common practice [by humans]. The alleged motivation for combining "melody and harmony generation" is that Western music has employed harmony and melody to achieve desired emotional expression for hundreds of years. Applicants note that the alleged motivation is not directed to claim differences (such as, generating a melodic sequence in response to a received harmonic sequence) and is merely directed towards combining harmony and melody generation. Furthermore, the motivation apparently is directed towards human efforts because, as alleged, Western music has employed harmony and melody for hundreds of years (which is longer than the time frame of musical DNA transcription by machines).

Furthermore applicants maintain their belief that the rejections are based upon impermissible hindsight general motivation reasoning and that the proposed modification is not addressed towards claim differences. The motivation is too general because achieving emotional expression by employing harmony and melody in Western music for hundreds of years would contemplate almost any alteration of Dunn for achieving emotional expression and does not address why generating a melodic sequence in response to a plurality of determined chords would be obvious. The rejection is believed to be based on hindsight reconstruction because "generating a melodic sequence in response to a plurality of determined chords" is not taught or fairly suggested outside the applicants' disclosure. As noted above, neither Dunn nor Long teaches the generating a melodic sequence in response to a plurality of determined chords.

Application Serial No. 10/754,914  
Amendment dated April 10, 2006  
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Applicants refer the Examiner to the applicants' response to the former §112 rejection for claim 7 for an example of a melody being chosen in response to a determined chord.

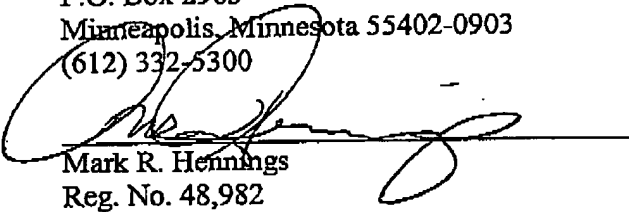
Dependent claims are submitted to be allowable for at least the reasons by which the claims they depend from are allowable. Accordingly, all claims are submitted to be allowable.

In view of the above amendments and remarks, applicants respectfully request a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

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